

Teens for Healthy Schools: Steps to Get Involved

October 8, 2008

*** Sir Francis Drake High School
* Tamalpais High School * Marin Academy
* Redwood High School * The Branson School ***

Mission Statement

Who

THS is led by high school students who are committed to preserving the health of their generation

How

By focusing their research on their school campuses as the palette for exploration

Why

This project inspires awareness about the daily toxic exposures in all aspects of the school environment and taking action to eliminate them and identify greener, less toxic alternatives

Key Questions

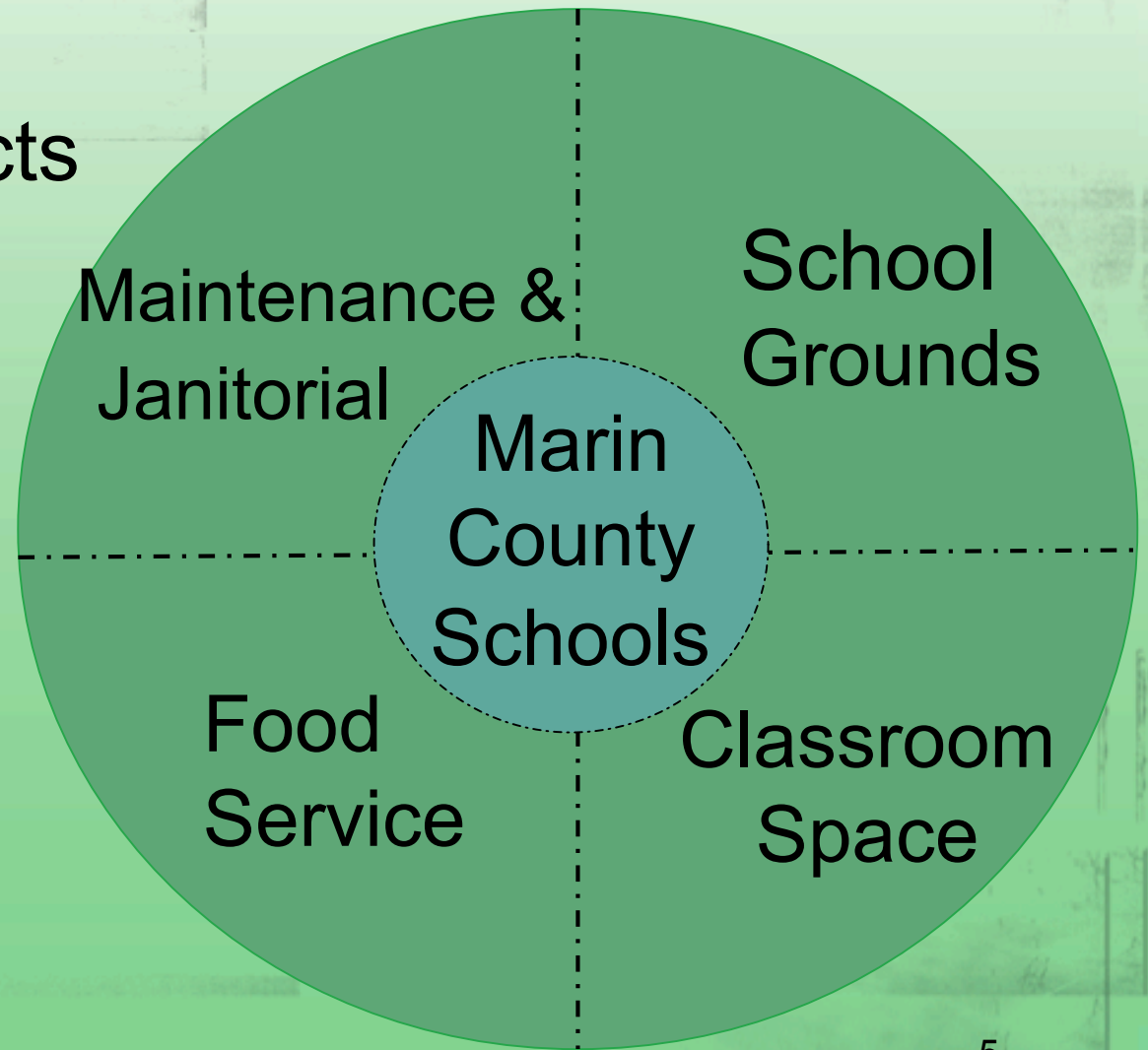
- How do we **identify the products** to be replaced?
- How do we **quantify the level of harm** of each product and the **cost/ ease to switch**?
- How do we **compare the harm and cost of each product and prioritize** which to focus on first?
- What is the clearest and most successful **process by which to get schools/ board to understand and fund the initiative**?
 - How can this process be made repeatable to extend to other schools?
- What's the best way to **involve suppliers and distributors**?
 - Marketing current products? New products? Sponsorships?

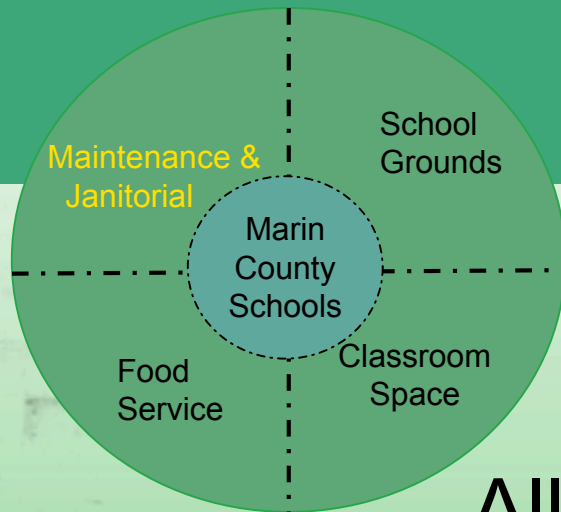
Overview

1. **ASSESS**- make a list of all products used in your school by category (see quadrant diagram)
2. **INVESTIGATE**- do case studies on each product to find health and environmental harm, then prioritize products to be replaced.
3. **FIND GREENER ALTERNATIVES**- research alternative products and test their effectiveness.
4. **ADVOCATE FOR CHANGE**- organize a presentation to effect change in your school.
5. **SPREAD THS**- educate other schools about your investigation and accomplishments and encourage them to do the same.

1: ASSESS

- Look at products in the four quadrants:



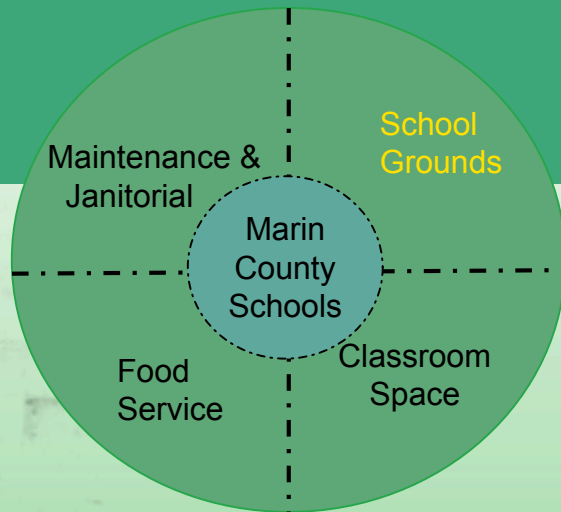


1: ASSESS

Maintenance & Janitorial

All cleaning products used in the:

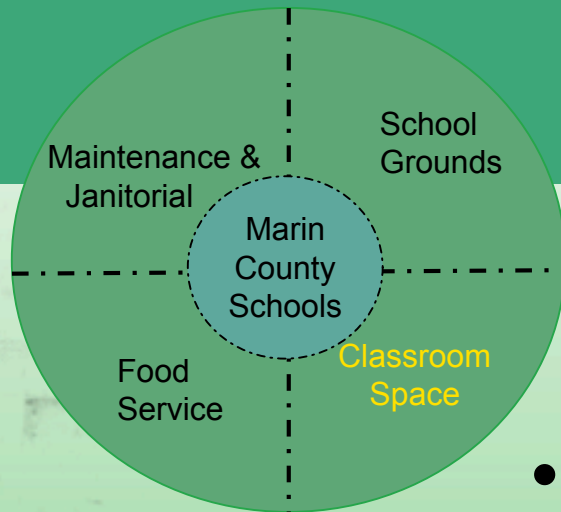
- Bathroom
- Classroom
- Kitchen
- Other Buildings



1: ASSESS

School Grounds

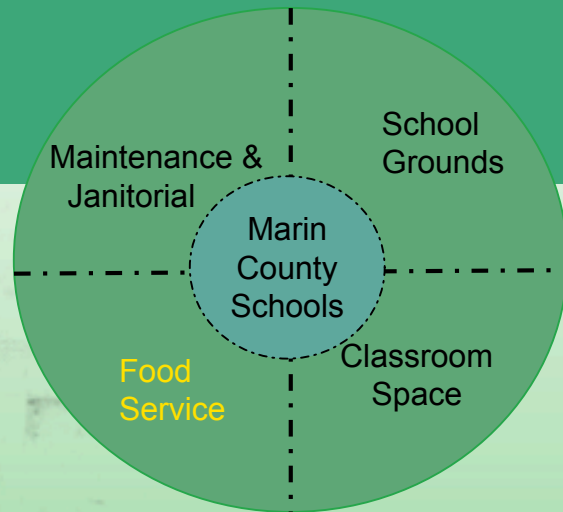
- Landscape
- Pest Control
- Buildings (interior)
 - Carpet
 - Paint
 - Lighting
 - Furnishings



1: ASSESS

Classroom Space

- Examples: pens, art supplies, glue, rubber cement
- General Classrooms: math, English, etc.
- Special Classrooms (with different specialized products): science lab, art room, photo lab, computer lab



1: ASSESS

Food Service

- Each school submit a week's worth of menus
- Food brands and distributors
- Cost per student per day/week/month
- What you get for what you pay
- To consider: how it's heated and served

1. ASSESS

- Make a master list of all products used in all 4 quadrants:

Product List – please find and list the products at your school

•Your name: _____

•School: _____

Room found in (general classroom, art room, science lab, bathroom, janitorial closet, etc.)	Product Name/Brand	SPECIFIC Purpose (toilet cleaner, hand sanitizer, etc.)

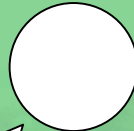
1. ASSESS


- To fill out template, ask school janitorial/maintenance crew to give you a tour or let you into supply closets.
- An example of what to look for as you fill out the product template:
- INSERT VIDEO HERE!!!






2. INVESTIGATE

- Gather a group of students to do case studies of products
- Choose the products from your list that seem the most used and most harmful around school, and assign a case study to each student in the group
- Be sure to check in with TFHS people to prioritize and so that you do not duplicate case studies (point person at each school)
- Fill out the information on the LEFT side of the following 2 slides, then prioritize the products to be replaced:

Case study part 1: harm reduction rating

Current product		Proposed alternative	
Product name			
Ingredients	<ul style="list-style-type: none"> . . . 	<ul style="list-style-type: none"> . . . 	
Health risks	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	
Impact on Environment	<ul style="list-style-type: none"> . . . 	<ul style="list-style-type: none"> . . . 	
Level of Exposure	<ul style="list-style-type: none"> 		
		<div> <div>Harm reduction rating:</div> <div>  </div> </div>	



No harm reduction
→
Significant harm reduced

Fill in circle as appropriate:
score should be based on the
toxicity of ingredients as well
as the level of exposure

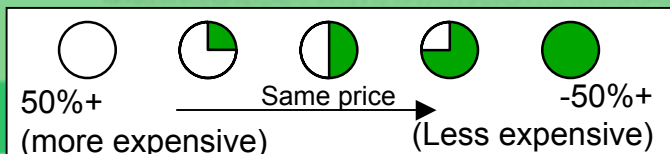
Case study part two: cost of switching rating

Current product		Proposed alternative	
Product name			
Calculations	<ul style="list-style-type: none">.....		<ul style="list-style-type: none">.....
Cost per gallon	<ul style="list-style-type: none">...		<ul style="list-style-type: none">...



Total cost to switch	
----------------------	--

Cost of switching rating:	<input type="text"/>
---------------------------	----------------------



Fill in circle as appropriate:
score should be based on total
costs of switching to new
product

2. INVESTIGATE

- Resources to find information:
 - Google MSDS (material safety data sheet) of product: gives information on harm of product and ingredients
 - Call or email manufacturer to get all ingredients
 - Google health and environmental implications of product as a whole or specific ingredients
 - Research specific chemicals on www.cosmeticsdatabase.com
 - Research product on www.goodguide.com
 - Talk to your science teachers about ingredients

2. INVESTIGATE

Take a look at the following three case studies for examples...

- *These are formatted slightly differently from the newer case study templates, but you can get the idea.
- **The step to finding the greener alternative comes next, and steps 2. and 3. are combined to create the following case studies.

Wall Paint



Currently in use: Benjamin Moore Interior Paint



Nontoxic Alternative: The Freshaire Choice Interior Paint

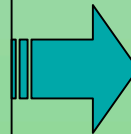


Ingredients

Methyl ethyl ketoxime, ethylbenzene, carbon black, petroleum distillate, xylene, dimethylbenzene, xylol, titanium dioxide, crystalline-quartz silica, limestone, talc

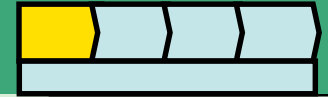
Health Effects/ Ingredient Toxicity

Contains VOC's which emit gases that are carcinogenic and toxic to the central nervous system (CNS); cause respiratory problems, CNS depression, dizziness and euphoria, severe respiratory irritation, fatal edema, impaired fertility, chest pain, chemical pneumonia, fibrosis (scarring of the lungs), silicosis, tuberculosis, autoimmune and chronic kidney diseases, pneumoconiosis, inflammation of mucous membrane, cardiovascular issues; damage major organs: liver, brain, kidney



- Non petroleum-based pigments
- Zero volatile organic compounds (VOC), including tints (the first paint that can make this claim); none of the health risks associated with VOC emissions
- Highest level of Greenguard Environmental Institute certification for Children and Schools; ensures lowest possible emissions and most improved indoor air quality

Wall Paint



Currently in use:
Benjamin Moore
Interior Paint

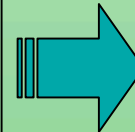


Nontoxic Alternative:
The Freshaire Choice
Interior Paint



Ecological
Impact

- Disposal and clean-up can contaminate environment
- Packaging consumes new materials, which end up in a landfill



- All natural ingredients safe for environment
- 100% recycled materials used for can; can is recyclable
- 75% recycled material used for label, printed with soy ink
- Paint chips are recycled and recyclable
- Safe ingredients do not contaminate environment; simplify disposal and clean-up

Price

\$41.95 / 1 gal.

\$35.00 / 1 gal.

Level of
Exposure

Paint in classrooms and other school buildings can emit VOC gases and contaminate indoor air quality for years, even after painting

Weed Killer (Herbicide)



Currently in use: Roundup Pro Herbicide



Nontoxic Alternative: EcoSmart Mantran Pro Herbicide Concentrate



Ingredients

41% isopropylamine salt of glyphosate,
59% unidentified other ingredients

Eugenol, vinegar, wintergreen oil, butyl
lactate, lecithin

Health Effects/ Ingredient Toxicity

- Eye and skin irritant
- Causes sore throat, nausea, vomiting, diarrhea
- Respiratory distress, pulmonary edema, acidosis, cardiovascular arrhythmia

- USDA National Organic Program Compliant
- Excellent worker safety profile
- Natural, botanical alternative to chemicals

Ecological Impact

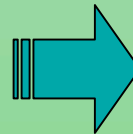
- Contaminates ground water
- Toxic and poisonous to wildlife

- Biodegradable; can be safely used near water
- Plant-based materials ensure minimal environmental and wildlife toxicity

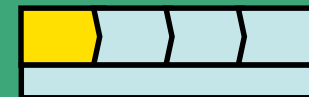
Price

\$154.80 / 2.5 gal

\$189.00 / 2.5 gal



All Purpose Cleaner



Currently in use:
EcoLab
Quick Fill 510



Nontoxic Alternative:
Liquid Sunshine
Nontoxic Cleaner



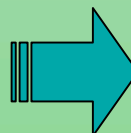
Ingredients

Octadecenoic Acid, Aminoethanol, Methylpentane, Butoxyethanol, Glucopyranose, Alkyl Glycosides

Saponified Organic Oils of Coconut, Olive and Jojoba, Natural Citrus Essential Oil Blend with Organic Orange Oil, Organic Aloe Vera, Rosemary Extract

Health Effects/ Ingredient Toxicity

- Irritating to eyes and skin
- Contains material which causes damage to mucous membranes, upper respiratory tract, central nervous system, eye, lens, and cornea
- Repeated or prolonged contact may cause dermatitis
- Use of eye protection and gloves recommended when using this product



- In accordance with Federal Regulation, all materials considered non-hazardous; ranked zero in all Hazardous Materials Identification Systems categories
- Does not contain detergents, artificial colors, fragrances, and preservatives
- Safe for skin, even helps alleviate skin problems (psoriasis, eczema, dermatitis)

All Purpose Cleaner



Currently in use:
EcoLab
Quick Fill 510

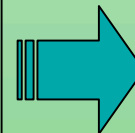


Nontoxic Alternative:
Liquid Sunshine
Nontoxic Cleaner



Ecological
Impact

Dispersal of spilled material and runoff
can contaminate soil and water



- All natural ingredients safe for environment
- Certified organic by Vermont Organic Farmers; does not use pesticides and prevents the toxic runoff associated with pesticide use

Price

\$55.35 / 4 L \approx 1 gal.

\$38.98 / 1 gal.

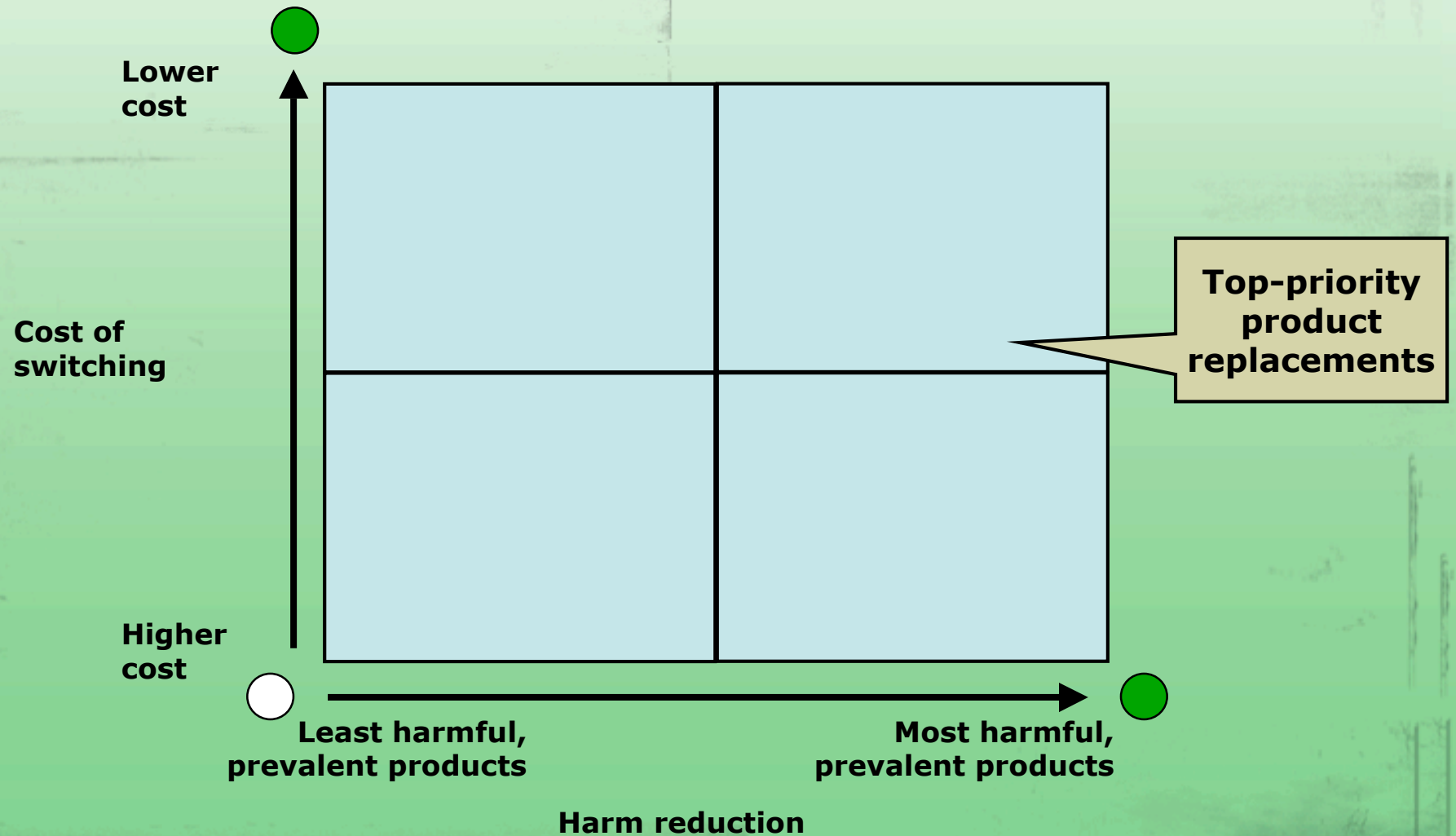
Level of
Exposure

Used to clean various school surfaces in
which students are frequently in contact:
tables, desks, bathrooms

3. GREENER ALTERNATIVES

- Decide if every product used is necessary
- Find greener alternatives for each case study, starting with the prioritized ones
- Research greener alternatives
 - Internet data bases and stores
 - Talk to experts: company owners, chemists, scientists
- Test effectiveness of greener alternatives
 - Do experiments measuring the amount of bacteria that conventional and green products remove on bathroom sinks, etc.
 - Involve janitorial service
 - Involve science teachers
- Prioritize switching using cost and harm level:

Use both ratings to place products on grid;
prioritize products in upper right



4. ADVOCATE FOR CHANGE

- Organize presentations of TFHS mission, process, and findings (case studies) into PowerPoint
- Determine the audience for the presentation - Principal, school head, school board, Town Council
- Schedule a meeting
- Present your hard work and findings
- Affect change!

5. SPREAD PROJECT

- Put case studies on TFHS website to avoid duplicate studies by other schools
- Spread success to other schools
- Create school buying groups to minimize costs from suppliers
- Outreach to local and state government
- Be a point person/mentor to other schools all over country who want to start a TFHS project

Equipped with the necessary
knowledge and support, we can
make change in our schools!
Thank you.